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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,399	11/03/2003	Nobuhiro Tamura	2562/71341/JPW/FHB	5805
7590 11/28/2005				
Cooper & Dunham LLP 1185 Avenue of the Americas New York, NY 10036		EXAMINER WALFORD, NATALIE K		
		ART UNIT PAPER NUMBER		
		2879		

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/700,399	TAMURA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Natalie K. Walford	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/03 and 6/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of claims 1-13 in the reply filed on October 27, 2005 is acknowledged. The traversal is on the ground(s) that Groups I and II are not independent. Furthermore, the traversal is on the grounds that it would not be a serious burden to search for both Groups I and II. This is not found persuasive because the search for the method of manufacturing a metal halide lamp is not required for the structure of a metal halide lamp. It would be undue burden for the examiner to search both the method of manufacturing and the structure. Also, the two inventions are independent because the method can be done by an entirely different process.

The requirement is still deemed proper and is therefore made FINAL.

Claims 14-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on October 27, 2005.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6 and 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6, the phrase "excessively large" renders the claim indefinite because it is unclear what exactly is excessively large relative to a stoichiometric amount.

Claim 9 recites the limitation "the raw material" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 recites the limitation "the raw material" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the raw material" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 12, the phrase "excessively large" renders the claim indefinite because it is unclear what exactly is excessively large relative to a stoichiometric amount.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson (US 4,023,059).

Regarding claim 1, Anderson discloses a metal halide lamp in figure 3, including: a discharge container (item 203) including a discharge space and sealing sections formed at both edges of the discharge space; pair of electrodes (items 213 and 214) arranged within the discharge space and held sections; and discharge medium sealed in the discharge container, containing a light-emitting material formed of a metal halide (column 6, lines 13-15) and a rare gas (column 10, lines 22-25), and essentially free from mercury, wherein the amount of water contained the metal halide in the extinguishing stage of the metal halide lamp not larger than 50 ppm (column 8, lines 58-62).

Regarding claim 3, Anderson discloses a metal halide lamp according to claim 1, wherein raw material of the metal halide having a water content not higher than 100 ppm is sealed in the discharge space (column 8, lines 58-62).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 6-9, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 4,023,059) in view of Ishigami et al. (US 6,353,289).

Regarding claim 2, Anderson discloses a metal halide lamp according to claim 1, but does not expressly disclose that the metal halide includes at least a halide of zinc, as claimed by the Applicant. Ishigami is cited to show a metal halide lamp that has a metal halide of at least zinc (column 15, lines 26-34). Ishigami teaches that having a halide of zinc can act as a buffer gas and the metal is unlikely to emit a visible light compared with the metal another halide (column 6, 35-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Anderson's invention to include a halide of zinc as suggested by Ishigami for acting as a buffer gas and to help not emit visible light.

Regarding claim 6, Anderson discloses a metal halide lamp according to claim 1, but does not expressly disclose that the metal halide contains an excessively large amount of metal component relative to the stoichiometric amount, as claimed by the Applicant. Ishigami is cited to show a metal halide lamp with an excessively large amount of metal component relative to the stoichiometric amount (column 36, lines 24-39). Ishigami teaches that certain values will give better light efficiency and color rendering properties (column 36, lines 46-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Anderson's invention to include an excessively large amount of metal component relative to the stoichiometric amount as suggested by Ishigami for having better light efficiency and color rendering properties.

Regarding claim 7, Anderson discloses a metal halide lamp according to claim 1, but does not expressly disclose that the light-emitting material includes a first metal

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halide formed of a halide of at least one metal selected from the group consisting of sodium, scandium and a rare earth element, and a second metal halide formed of a halide of at least one metal selected from the group consisting of zinc, magnesium, iron, cobalt, chromium, nickel, manganese, aluminum, antimony, beryllium, rhenium, gallium, titanium, zirconium and hafnium. Ishigami is cited to show a metal halide lamp with a light-emitting material including a first metal halide formed of a halide of at least one metal selected from the group consisting of sodium, scandium and a rare earth element (column 13, lines 20-27), and a second metal halide formed of a halide of at least one metal selected from the group consisting of zinc, magnesium, iron, cobalt, chromium, nickel, manganese, aluminum, antimony, beryllium, rhenium, gallium, titanium, zirconium and hafnium (column 15, lines 13-21). Ishigami teaches that having the first halide from the group of sodium, scandium, and a rare earth element in combination with the second halide having a relatively high vapor pressure and being a halide of at least one metal, then it will be unlikely that the second halide will emit a visible light compared with the first halide.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Anderson's invention to include a light-emitting material includes a first metal halide formed of a halide of at least one metal selected from the group consisting of sodium, scandium and a rare earth element, and a second metal halide formed of a halide of at least one metal selected from the group consisting of zinc, magnesium, iron, cobalt, chromium, nickel, manganese, aluminum, antimony, beryllium, rhenium, gallium, titanium, zirconium and hafnium as suggested by Ishigami

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for helping to control the amount of visible light the second halide emits compared with the first halide.

Regarding claim 8, the combined reference of Anderson and Ishigami disclose a metal halide lamp according to claim 7, wherein the metal halide includes a halide least zinc (Ishigami; column 15, lines 22-27).

Regarding claim 9, the combined reference of Anderson and Ishigami disclose a metal halide lamp according to claim 7, wherein the raw material of the metal halide having a water content not higher than 100 ppm is sealed in the discharge container (Anderson; column 8, lines 16-18).

Regarding claim 12, the combined reference of Anderson and Ishigami disclose a metal halide lamp according to claim 7, wherein the metal halide contains an excessively large amount of metal component relative to the stoichiometric amount (column 36, lines 24-39).

Regarding claim 13, the combined reference of Anderson and Ishigami disclose a headlight apparatus for a vehicle, including: the metal halide lamp according to any one of claims 1 to 12 and a headlight apparatus body for a vehicle having the metal halide lamp arranged therein and having an optical axis extending the longitudinal direction of the discharge container included in the metal halide lamp (Ishigami; FIG. 12).



Claims 4-5 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 4,023,059) in view of Ishigami et al. (US 6,353,289) in further view of Horiuchi et al. (US 6,368,175).

Regarding claim 4, the combined reference Anderson and Ishigami disclose a metal halide lamp according to claim 3, but does not expressly disclose that a vacuum heat treatment is applied to the raw material of the metal halide, as claimed by the Applicant. Horiuchi is cited to show a discharge lamp that has a vacuum heat treatment applied (column 18, lines 54-58). Horiuchi teaches that this step is effective in eliminating water from a metal halide as a light emitting substance being highly absorptive and also effective in preventing the metal halide lamp from undergoing blackening and devitrification (column 18, lines 59-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined invention of Anderson and Ishigami to include a vacuum heat treatment is applied to the raw material of the metal halide as suggested by Horiuchi for eliminating water from a metal halide as a light emitting substance.

Regarding claim 5, the combined reference of Anderson and Ishigami disclose a metal halide lamp according to claim 3, but does not expressly disclose that a heat treatment is applied to the raw material of the metal halide under an inert gas atmosphere, as claimed by the Applicant. Horiuchi is cited to show a metal halide lamp that has a heat treatment applied to the raw material of the metal halide under an inert gas atmosphere (column 19, lines 16-17 and 35-38). Horiuchi teaches that with an inert gas atmosphere, it is more effective in eliminating adsorbed water.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined invention of Anderson and Ishigami for having a heat treatment is applied to the raw material of the metal halide under an inert gas atmosphere as suggested by Horiuchi for eliminating adsorbed water.

Regarding claim 10, the combined reference of Anderson and Ishigami disclose a metal halide lamp according to claim 9, but do not expressly disclose that a vacuum heat treatment applied is to the raw material of the metal halide. Horiuchi teaches that this step is effective in eliminating water from a metal halide as a light emitting substance being highly absorptive and also effective in preventing the metal halide lamp from undergoing blackening and devitrification (column 18, lines 59-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined invention of Anderson and Ishigami to include a vacuum heat treatment is applied to the raw material of the metal halide as suggested by Horiuchi for eliminating water from a metal halide as a light emitting substance.

Regarding claim 11, the combined reference of Anderson and Ishigami disclose a metal halide lamp according to claim 9, but does not expressly disclose that a heat treatment is applied to the raw material of the metal halide under an inert gas atmosphere, as claimed by the Applicant. Horiuchi is cited to show a metal halide lamp that has a heat treatment applied to the raw material of the metal halide under an inert gas atmosphere (column 19, lines 16-17 and 35-38). Horiuchi teaches that with an inert gas atmosphere, it is more effective in eliminating adsorbed water.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the combined invention of Anderson and Ishigami for having a heat treatment is applied to the raw material of the metal halide under an inert gas atmosphere as suggested by Horiuchi for eliminating adsorbed water.

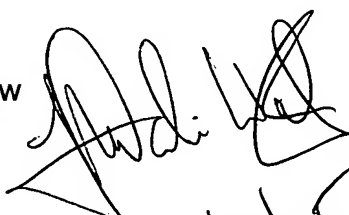
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

nkW



11/19/05

M/Sg 11/22/05  
**MARICELI SANTIAGO**  
**PRIMARY EXAMINER**